

REMARKS

1. The Office Action has rejected Claims 33 – 38 and 46 - 48 under the provisions of 35 U.S.C. §102(b) as being anticipated by U. S. Patent No. 4,691,867 (Iwako). This rejection is respectfully traversed.

Applicant would direct the Examiner's attention to the amendments to independent Claims 33 and 46 to distinguish the cited Iwako reference. More particularly, Claim 33 defines a turbine mixer for pre-mixing cement and water for the production of concrete in which a mixing plate dividing the mixing chamber into inner and outer chambers is provided with first agitating fins operable within the inner chamber and second agitating fins operable within the outer chamber to mix the cement and water before being discharged from the mixing chamber. In independent Claim 46, the turbine mixer is defined as having a mixing chamber including a rotatable mixing plate dividing the mixing chamber into inner and outer chambers, and a housing including an auger for conveying the cement into the inner chamber, with the auger and mixing plate being connected to a drive shaft for rotation together at identical rotational speeds.

Applicant respectfully submits that the Iwako reference contains no teaching for a mixing chamber that is divided by a mixing plate having agitating fins on opposing sides thereof for operation in the inner and outer chambers created by the position of the mixing plate. Furthermore, Applicants respectfully submit that Iwako does not contain any teaching or suggestion for the mixing plate to be mounted to the infeed apparatus bringing the dry pulverulent material into the mixing chamber so that both rotate together at identical rotational speeds.

In view of the amendments made to independent Claims 33 and 46 above, Applicant respectfully requests that this rejection be reconsidered and withdrawn, and that all claims dependent thereon be passed to allowance therewith.

2. The Office Action has rejected Claims 1 – 3, 5 – 7, 9, 10, 12 – 14, 40 – 42, 44, 45 and 49 – 52 under the provisions of 35 U. S. C. §103(a) as being unpatentable over Iwako in view of U. S. Patent No. 4,406,548 (Haws) and U. S. Patent No. 4,439,042 (Bertogilo). The Office Action states that Iwako discloses a turbine mixer as defined within the claims, that Haws adds the mobile frame that carries a mobile concrete production system and that Bertogilo

teaches the use of an auger to supply dry material to a turbine mixer. The Office Action concludes that it would be obvious to provide the mixer of Haws with a device of Iwako so that the slurry produced by the Iwakodevice may be more easily transported to the jobsite. This rejection is respectfully traversed.

Applicant respectfully submits that the state of the known art in the production of concrete contains no teaching or suggestion for the high speed pre-mixing of dry cement and water to create a cement slurry that accelerates the hydration process before the cement slurry is added to aggregates in a conventional mixing apparatus to create a concrete mixture.

Applicant's turbine mixer creates a premixed atomized slurry that affects a hydration of the individual cement particles in a manner that has heretofore been unknown in the art. This intense hydration of the cement particles causes a rapid cure of the concrete mix that is created after the premixed cement slurry is added to aggregates to produce concrete. The rapid and intense hydration of the cement particles is evidenced through tests that show a significant increase in temperature on the outer surface of the turbine mixer.

Applicant would direct the Examiner's attention to the amendments to independent Claims 1, 10, 40 and 46 to distinguish the structure of Applicant's cement/water turbine mixer from the pulverized coal slurry mixer disclosed in the Iwako reference. More particularly, Claim 1 has been amended to define the mobile concrete production machine as including a turbine mixer having a mixing chamber divided by a mixing plate rotatable within the mixing chamber to mix cement and water and create a cement slurry that is conveyed through a discharge port on the front cover of the mixing chamber directly into the mixing auger to be combined with the aggregates conveyed into the mixing auger.

Applicant respectfully submits that Haws contains no teaching or suggestion whatsoever for the pre-mixing of cement and water into a slurry before being combined with the aggregate placed into the mixing auger by the aggregates conveyor. Furthermore, Iwako contains no teaching or suggestion that cement and water can be pre-mixed into a slurry before being combined with aggregate placed into the mixing auger of the mobile concrete production apparatus. Accordingly, Iwako and Haws, whether taken singly or in combination, would not result in a turbine mixer supported on the frame of the concrete production machine to create a pre-mixed cement/water slurry that is discharged from the turbine mixer directly into the machine mixing auger for the production of a concrete mixture.

With respect to independent Claim 10, Applicant has amended the definition of the concrete production system to be more generic in scope, but has also defined the agitating fins mounted on the mixing plate as being disposed outwardly from the mixing plate into the annular gap. While the Iwako mixing apparatus does appear to have fins or pegs mounted on top of the first mixing plate in the upper chamber of the apparatus and on top of the second mixing plate in the lower chamber(s), the Iwako fins or pegs are not disposed outwardly from the mixing plate into the gap between the circumferential periphery of the respective mixing plate and the outer shell of the housing. Accordingly, Applicants respectfully submit that amended independent Claim 10 patentably distinguishes the Iwako reference. Neither Haws nor Bertogilo add anything to the teachings of Iwako to meet these specific limitations of Applicant's agitating fins.

Independent Claim 40 defines a mobile, volumetric concrete production apparatus that includes a turbine mixer having a mixing plate dividing the mixing chamber into first and second chambers where the mixing plate is provided with first agitating fins that are mounted on the mixing plate for operation within the first chamber and second agitating fins mounted on the mixing plate that are operable within the second chamber to affect a mixing of cement and water into a slurry for discharge from the second chamber. Applicant respectfully submits that Iwako does not contain any teaching for a mixing plate that has agitating fins on both sides of the mixing plate for operation within the chambers created by the position of the mixing plate within the overall mixing chamber. Iwako teaches a mixing apparatus having upper and lower mixing chambers, each divided by a mixing plate; however, each mixing plate is provided with agitating fins or pegs only on the upper surface of either mixing plate.

Claims 49 – 52 are dependent of amended independent Claim 46 which defines the turbine mixer has having a housing in flow communication with a mixing chamber and including an auger that is mounted with the mixing plate for rotation therewith at identical rotational speeds. Since Claims 49 – 52 incorporate the limitations of amended Claim 46, Applicant respectfully submits that Claims 49 – 52 also patentably distinguish the Iwako reference.

While the arguments set forth above are primarily directed to the Iwako reference, Applicant respectfully submits that neither Haws nor Bertogilo add anything to the Iwako reference to meet the limitations noted above with respect to amended independent Claims 1, 10, 40 and 46. Haws does provide the general disclosure of a mobile volumetric concrete production

machine that has a mixing auger for combining cement, water and aggregate to form a concrete mixture. Nevertheless, Haws contains no teaching or suggestion whatsoever relating to the pre-mixing of cement and water to form a slurry to be added to the aggregate. Bertogilo does teach that an auger can deliver dry material to a mixing device, but there is no teaching or suggestion for the mounting of a mixing plate of the mixing device to the auger for rotation therewith. Furthermore, Bertogilo contains no teaching or suggestion for the other limitations noted above with respect to amended independent Claims 1, 10, 40 and 46.

For the reasons given above, Applicant respectfully requests that this rejection be reconsidered and withdrawn.

3. The Office Action has rejected Claims 8, 16, 39, 43 and 53 under the provisions of 35 U. S. C. §103(a) as being unpatentable over Iwako in view of Haws and Bertogilo and further in view of U. S. Patent No. 4,822,482 (Hollingsworth). The Office Action states that Hollingsworth adds a teaching for a discharge opening could be formed with a sliding valve element to control the amount of slurry discharged from the mixing chamber. This rejection is respectfully traversed.

Applicant respectfully submits that Hollingsworth adds nothing to the teachings of Iwako, Haws and Bertogilo to meet the specific limitations of amended independent Claims 1, 10, 33, 40 and 46 as described above. Since the rejected dependent claims incorporate the limitations of the independent claim from which they respectfully depend, Applicant respectfully submits that that these rejected dependent claims patentably distinguish the cited prior art references whether taken singly or in combination.

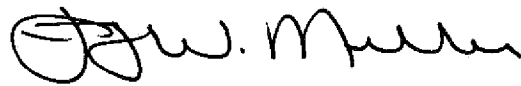
Accordingly, Applicant respectfully requests that this rejection be reconsidered and withdrawn.

4. Applicant would also direct the Examiner's attention to amendments made to dependent claims not referred to specifically above. More particularly, Claims 6, 42 and 50 were amended to define the agitating fins as being disposed outwardly from the mixing plate into the annular gap. Claim 7 was amended to define the mixing plate being mounted to the auger for rotation therewith. Claim 35 was amended to define both the first and second agitating fins being disposed outwardly of a peripheral edge of the mixing plate. Claims 47 and 52 were amended to clarify the claim. Claim 49 was amended to define the structure of the agitating fins.

5. In summary, Claims 1, 6, 7, 10, 33, 35, 40, 42, 46, 47, 49, 50 and 52 have been amended and Claims 1 – 3, 5 – 10, 12 – 14, 16, and 33 – 53 remain in the application. Applicant believes that the claims are allowable based on the foregoing amendments. Applicant respectfully requests that all rejections and objections be reconsidered and withdrawn and that all claims remaining in this case be allowed.

Pursuant to currently recommended Patent Office practice, the Examiner is expressly authorized to call the undersigned attorney if in his judgment disposition of this application could be expedited or if he considers the case ready for final disposition by other than allowance.

Respectfully submitted,



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